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ATTORNEY DOCKET NO.
062891.0460

PATENT APPLICATION
09/780,755

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Chris O'Rourke, et al.
Serial No.:	09/780,755
Filing Date:	February 8, 2001
Group Art Unit:	2141
Examiner:	Kristi D. Shingles
Title:	PREALLOCATION OF CLIENT NETWORK ADDRESS TRANSLATION ADDRESSES FOR CLIENT-SERVER NETWORKS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

APPEAL BRIEF

Applicant has appealed to the Board of Patent Appeals and Interferences from the decision of the Examiner mailed March 16, 2005, finally rejecting Claims 1, 3, and 10-14. Applicant filed a Notice of Appeal on July 18. Applicant respectfully submits herewith their brief on appeal.

REAL PARTY IN INTEREST

The present Application was assigned to Cisco Technology, Inc., a Delaware corporation, as indicated by an assignment from the inventors recorded on February 8, 2001 in the Assignment Records of the United States Patent and Trademark Office at Reel 011552, Frames 0508-0512.

RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

STATUS OF CLAIMS

Claims 1, 3, and 10-14 stand rejected pursuant to a Final Action mailed March 16, 2005. Claims 2 and 4-9 are subject to a restriction requirement. Claims 1-14 are all presented for appeal.

STATUS OF AMENDMENTS

A Response to Examiner's Final Action was filed on May 16, 2005 in response to the Final Action mailed March 16, 2005. No additional amendments were made to the claims. The Examiner issued an Advisory Action dated June 22, 2005 which stated that the Response to Examiner's Final Action was considered but that it did not place the application in condition for allowance. A Notice of Appeal was filed on July 18, 2005.

SUMMARY OF CLAIMED SUBJECT MATTER

With reference to FIGUREs 2-6 and Applicant's specification (see page 12, line 19, to page 13, line 15; page 14, line 20, to page 17, line 14), the present invention

provided in Claims 1-14 involve a method of allocating memory for a client network address translation pool that includes creating a control block representing a client NAT address range (See FIGUREs 2 and 3 and page 12, line 19, to page 13, line 27). A memory pool is allocated with a main pool header and subpool headers (See FIGURE 4 and page 14, line 20, to page 15, line 21). A subpool memory block includes one or more connection blocks allocated therein (See FIGUREs 4 and 5 and page 15, lines 8-21A client NAT address range is allocated within a subpool until the subpool is freed (See page 18, lines 1-4).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Did the Examiner err in concluding that Claims 1, 3, and 10-13 were anticipated under 35 U.S.C. §102(e) in view of U. S. Patent No. 6,212,613 issued to Belair?

2. Did the Examiner err in concluding that Claims 3 and 14 were obvious under 35 U.S.C. §103(a) in view of Belair and U. S. Patent No. 6,832,322 issued to Boden, et al.

3. Are the non-elected species claims still pending in the Application?

ARGUMENT

1. Claims 1, 3, and 10-13 stand rejected under 35 U.S.C. §102(e) as being anticipated by Belair. To anticipate a claim under 35 U.S.C. §102(e), a single prior art reference must teach each and every limitation as set forth in the claims. Since the cited prior art reference does not teach each and every element set forth in the claims, Applicant respectfully traverses this rejection.

Independent Claims 1, 10, and 13 recite in general the ability to allocate particular client NAT addresses of a client NAT address range to a subpool and ensure that the particular client NAT addresses in the client NAT address range remain allocated within the subpool until all of the particular addresses within the client NAT address range of the subpool have been freed. By contrast, the Belair patent is directed to memory address reuse using a shadow memory and a translation lookaside buffer partitioned within a cache memory of a processor. Thus, the Belair patent is unconcerned with client NAT address allocation. Moreover, the translation lookaside buffer of the Belair patent does not provide a subpool where particular client NAT addresses of a client NAT address range are allocated and where the particular client NAT addresses remain allocated until each connection block associated therewith in the subpool are freed. The Belair patent merely has virtual address ranges allocated for a particular process but no separate allocation of particular virtual addresses within the virtual address range to a subpool as provided in the claimed invention. In fact, the Belair patent specifically discloses the sending of a memory allocation request for a copy operation, accessing an allocated portion of memory mapped to a virtual address range received in a response to the request, and frees the allocated

portion of memory upon completion of the copy operation. See col. 9, lines 5-9, of the Belair patent. This procedure is continuously repeated throughout the operation of the computer in the Belair patent. See col. 10, lines 7-21, of the Belair patent. There is no determination performed by the Belair patent as to whether all connection blocks allocated to a subpool memory are free as provided in the claimed invention by keeping all client NAT addresses allocated to the subpool memory if this condition is not present. The determination made by the Belair patent for deallocating its memory is based on completion of the copy operation and not on whether all connection blocks in a subpool memory are free. Thus, the Belair patent fails to provide an ability to allocate particular client NAT addresses of a client NAT address range to a subpool and ensure that the particular client NAT addresses in the client NAT address range remain allocated within the subpool until all of the connection blocks with particular addresses within the client NAT address range of the subpool have been freed as provided in the claimed invention. Therefore, Applicant respectfully submits that Claims 1, 3, and 10-13 are not anticipated by the Belair patent.

2. Claims 3 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Belair in view of Boden, et al. Claim 3 has already been shown above to be patentably distinct from the Belair patent. Independent Claim 14 includes similar limitations shown above to be patentably distinct from the Belair patent. Moreover, the Boden, et al. patent does not include any additional disclosure combinable with the Belair patent that would be material to patentability of these claims. Therefore, Applicant respectfully submits that Claims 3 and 14 are patentably distinct from the proposed Belair - Boden, et al. combination.

3. Claims 2-9 are subject to a restriction requirement under 35 U.S.C. §121. Claims 2-9 were identified as species claims that depend from a generic Claim 1. Applicant elected with traverse the species of Claim 3 to which the claims are to be restricted for prosecution on the merits if no generic claim is finally held to be allowable. As discussed above, generic Claim 1 is patentably distinct from the cited art. Therefore, pursuant to 37 C.F.R. §1.141(a), non-elected species claims 2 and 4-9 depend from an allowable generic claim and may be maintained in the present Application.

CONCLUSION

Applicant has clearly demonstrated that the present invention as claimed is clearly distinguishable over all the art cited of record, either alone or in combination, and satisfies all requirements under 35 U.S.C. §§101, 102, and 103, and 112. Therefore, Applicant respectfully requests the Board of Patent Appeals and Interferences to reverse the final rejection of the Examiner and instruct the Examiner to issue a notice of allowance of all claims.

The Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorneys for Applicant

Charles S. Fish
Reg. No. 35,870

September 19, 2005

Correspondence Address:
2001 Ross Avenue, Suite 600
Dallas, TX 75201-2980
(214) 953-6507
Customer Number: 05073

APPENDIX A

1. (Previously Presented) A method of allocating memory for a client network address translation (NAT) pool, said method comprising the steps of:

creating a control block that represents a client NAT address range, said control block identifying client NAT addresses for a computer system;

creating a memory pool having a main pool header, said main pool header having an address referenced in said control block;

allocating at least one subpool header having a subpool memory block containing one or more fixed-length connection blocks that are allocated within said subpool memory block, said connection blocks containing particular ones of said client NAT addresses, said subpool header being referenced by said main pool header;

wherein each connection block may be either free or allocated, said particular ones of said client NAT addresses remain allocated within said subpool memory until all connection blocks in said subpool memory are free.

2. (Original) A method as in Claim 1, wherein said control block has a pool name property.

3. (Original) A method as in Claim 1, wherein said control block has a first IP address property.

4. (Original) A method as in Claim 1, wherein said control block has a last IP address property.

5. (Original) A method as in Claim 1, wherein said control block has a net mask property.

6. (Original) A method as in Claim 1, wherein said control block has a memory pool address property.

7. (Original) A method as in Claim 1, wherein said control block has an initial number of connection blocks property.

8. (Original) A method as in Claim 1, wherein said control block has a maximum number of connection blocks property.

9. (Original) A method as in Claim 1, wherein said control block has an interval list address.

10. (Previously Presented) A method of allocating memory for a client network address translation (NAT) pool, said method comprising the steps of:

configuring a client network address translation (NAT) address range having a plurality of client NAT addresses;

allocating said client NAT address range;

allocating memory for a memory pool;

creating said memory pool;

creating a subpool within said memory pool, said subpool containing a subpool memory block containing one or more connection blocks that are allocated within said subpool, said subpool constructed and arranged to contain connection blocks with particular ones of said plurality of client NAT addresses within said client NAT address range;

wherein each connection block is either free or allocated, said particular ones of said plurality of client NAT addresses remain allocated within said subpool until all of said connection blocks are free.

11. (Original) The method according to Claim 10, wherein said step of creating a subpool further comprises the steps of:

initializing said subpool;

allocating an interval within said subpool with at least one block; and

initializing said at least one block with client NAT addresses.

12. (Original) The method according to Claim 10, wherein said method further comprising the step of:

allocating a new connection block in said memory pool;

allocating said new connection block to subpool.

13. (Previously Presented) A method of allocating memory in software for a client network address translation (NAT) pool, said method comprising the steps of:

creating an internal control block that represents said client NAT address range, said control block identifying client NAT addresses for the computer system;

creating a main pool header;

allocating at least one subpool header having a subpool memory block containing one or more fixed-length connection blocks that are allocated within said subpool memory block, said connection blocks containing particular ones of said client NAT addresses, said subpool header being referenced by said main pool header;

wherein each connection block is either allocated or free, said particular ones of said client NAT addresses remain allocated within said subpool memory until all of said connection blocks are free.

14. (Previously Presented) A memory allocation system for a computer, said system comprising:

a memory pool;

means for accepting user input parameters; and

means for creating a client network address translation subpool within said memory pool, said means for creating said client NAT subpool including means for allocating a client NAT address range, means for allocating particular addresses within said client NAT address range, means for freeing said addresses in said client NAT address range, and means for deallocating said client NAT address range;

wherein particular addresses within said client NAT address range remain allocated within said subpool until all of said particular addresses within said client NAT address range have been freed.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None

CERTIFICATE OF SERVICE

None

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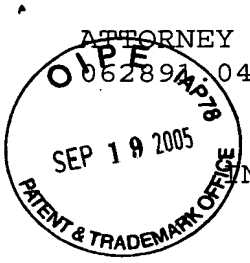

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Commissioner for Patents
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Alexandria, VA 22313-1450

Dear Sir:

CERTIFICATE OF MAILING BY EXPRESS MAIL

I hereby certify that the attached Appeal Brief with check is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. §1.10 on this 19th day of September 2005, addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Willie Jiles

Willie Jiles

Express Mail Receipt
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